Blood-based colorectal cancer screening: Eliciting attitudes and determining predictors of interest in a multiethnic sample

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Introduction

- Colorectal or colon cancer (CRC) is the second most commonly diagnosed cancer in both men and women in the U.S. (Jemal et al., 2009).
- Although screening decreases CRC incidence (Burt, 2010) and mortality, currently, less than 50% of the eligible population undergoes regular CRC screening (American Cancer Society, 2010).
- The advent of biomarker technologies such as a blood-based CRC screening test (Septin 9 blood test; ARUP Laboratories, 2010) may increase CRC screening by decreasing barriers currently contributing to health disparities.
- **Septin 9, a new blood-based biomarker CRC screening test, detects methylated Septin 9 DNA with 90% sensitivity and 89% specificity. This test requires no preparation and is recommended to occur every 1-2 years. Septin 9's ability to detect precancerous polyps is undetermined, and the test is not intended to replace colonoscopy.**
- This study is the first to assess patient beliefs about and interest in the Septin 9 test.

Method

- **Design**: We are in the process of recruiting 120 adults to participate in a series of focus groups stratified by Race/Ethnicity (White, Black or African American, and Hispanic or Latino/a) and Screening Status (previously screened, never screened).
- Quantitative and qualitative data are collected through group discussion and pre- and post-questionnaires.
- Participants are given information about 4 tests: Colonoscopy, sigmoidoscopy, FOBT, and Septin 9.
- **Participants (all at population risk for CRC)**:
  - ***n* = 50;** 42% male
  - Aged 48 to 73 (*M* = 59, *SD* = 7.67)
  - 74% Caucasian; 12% African American; 6% Hispanic
  - 54% previously screened for CRC
  - 84% currently have healthcare coverage
  - Median income is $40-$49K

Results

Table 1. Factors that participants *like* about the Septin 9 test*

Any positive	**82%**
Procedure (convenience, simplicity, comfort, time required, no preparation, less involved)	74%
High accuracy	44%
Lower cost	36%
Frequency	12%
Ability to increase screening rates	6%

Table 2. Factors that participants *do not like* about the Septin 9 test*

Any negative	**32%**
More research needs to be done	14%
Inability to detect precancerous growths	10%
Higher cost	6%
Potential lack of insurance coverage	6%
Possibility of false positives	2%
Frequency (too often)	2%

*Taken from the open-ended items on the post-discussion questionnaire

Figure 1. Participants' beliefs about CRC screening strategies

Colonoscopy only

"You have to have a really good reason before I give up colonoscopy because of its high accuracy." (Screened)

"If you come out of your blood test and it's a false positive, you're like, "Oh shoot, holy smokes!" A colonoscopy doesn't have that risk." (Unscreened)

Septin 9 only

"I like it because it can replace the need for colonoscopy." (Screened)

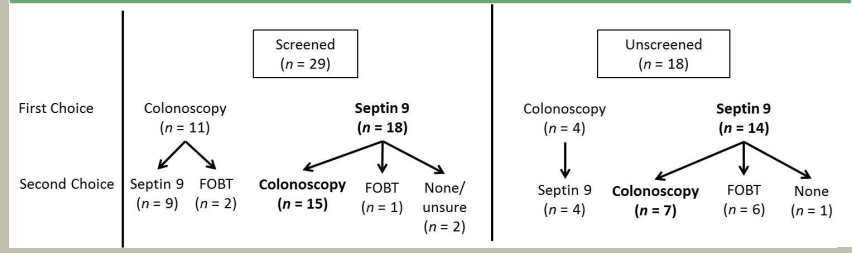
"To me Septin 9 sounds like a great place to start. It's pretty easy other than the poke of a needle. It'll help direct you for further need or you won't have to worry about it for a while." (Unscreened)

Septin 9 & Colonoscopy

"I think that the Septin 9 blood test is very convenient in between the 10-year colonoscopy." (Screened)

"I would say do the Septin 9 and if I got a positive result I would schedule the colonoscopy. This test could lead me to do a colonoscopy." (Unscreened)

Figure 2. Decision tree of participants' prediction of first and second screening choice stratified by screening status



- 64% selected Septin 9 as their first choice.
- 30% selected colonoscopy as their first choice.
- There were no significant differences in participants' first choice based on screening status, gender, religion, marital status, healthcare coverage, or race/ethnicity.

References

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Preliminary Conclusions

- The majority of participants listed advantages of the Septin 9 test such as convenient, noninvasive aspects of the procedure and high accuracy, while only one-third listed disadvantages such as the need for more research and the test's inability to detect precancerous polyps.
- The majority of participants, regardless of screening status, selected the Septin 9 test as their first choice for future CRC screening.
- However, participants spontaneously considered a wide variety of screening strategies which included various combinations of having the Septin 9 test and/or colonoscopies in the future.

Future Research

- This study is the first in a series. We plan to conduct 3 additional phases:

1. Focus groups will be conducted with primary care physicians from multiple settings to assess physician interest in and willingness to recommend the Septin 9 blood test to patients.
2. Information from the initial patient focus groups will be used to design a quantitative survey to assess patients' preferences and perceived barriers and benefits of CRC screening.
3. Finally, we will assess differential predictors of Septin 9 and colonoscopy uptake by offering screening in a prospective longitudinal study.